

**Lyme Disease Advisory Committee Meeting
March 20, 2007, Sacramento, California**

The meeting of the Lyme Disease Advisory Committee (LDAC) was held on March 20, 2007 in Sacramento, California.

Committee members in attendance

Victoria Deloney, Ph.N., Sacramento County Public Health
Vicki Kramer, Ph.D., California Department of Health Services
Robert Lane, Ph.D., University of California, Berkeley (via phone)
Lisa Messner, CPhT., Lyme Disease Support Network
James Miller, Ph.D., University of California, Los Angeles
Scott Morrow, M.D., M.P.H., California Conference of Local Health Officers
Christian Parlier, Lyme Disease Support Network
Raphael Stricker, M.D., California Medical Association

Committee members not in attendance

Peggy Leonard, Lyme Disease Resource Center
Susie Merrill, Lyme Disease Support Network

Other attendees

Anne Kjemtrup, D.V.M., Ph.D., California Department of Health Services
Approximately 30 people representing the interested public and public agencies

I. Opening Comments

The meeting was brought to order by Mr. Parlier at 9:53. Mr. Parlier introduced Ms. Lisa Messner, a new member of the LDAC representing the Lyme Disease Support Network. Ms. Messner has 20 years experience in the medical field and is a licensed pharmacy technician. She is the coordinator for the Ventura County Lyme Disease Support Group. She is currently the technician supervisor at the Los Robles Hospital and Medical Center in Thousand Oaks, California. Dr. Kramer welcomed Ms. Messner on behalf of the Director of the California Department of Health Services (CDHS).

II. Review and approval of minutes of 05/26/06 teleconference and 6/19/2006 reporting subcommittee teleconference

Dr. Miller made the motion to accept the minutes from both the May 26, 2006 and June 19, 2006 meetings. Ms. Messner seconded the motion. Dr. Kramer noted one correction. The minutes were approved unanimously by the committee.

III. California Department of Health Services Progress Report

Dr. Kjemtrup presented the yearly CDHS progress report on Lyme and other tick-borne disease educational and surveillance activities.

All target populations in the goal matrix (school children, vector control agencies and the health care community) were contacted this past year for educational activities. Educational activities included two press releases (May and October to coincide with increased tick activity), resulting in radio, newspaper, and television coverage. The wallet sized tick cards were translated into Spanish and over 10,000 distributed as were an additional 10,000 English tick cards. Other newly developed material included a brochure for the general public on tick-borne relapsing fever, a brochure and bookmark for children with a "Don't let the ticks bite" theme, and an article on insect repellent that mentioned Lyme disease (LD) in California and was sent to health plan newsletters. CDHS continues to mail out tick educational material to hospital libraries. Dr. Kjemtrup explained that the physician assessment questionnaire reviewed by the Committee last year was forwarded on to San Mateo County, in collaboration with the San Mateo County Mosquito Abatement District and Health Department who have plans to perform a telephone survey of physicians in their health jurisdictions. Results of their survey may help further refine the questionnaire for statewide assessment. Dr. Kjemtrup stated that Vector-Borne Disease Section (VBDS) personnel gave at least 25 lectures that discussed LD to a variety of groups such as physicians, United States Forest Service (USFS), mosquito control agencies, and universities. Many of these presentations were "Train the Trainer" type events.

Plans for this year include expansion of the CDHS website, a radio public service announcement, and a slide show on epidemiologic information on tick-borne diseases for physicians.

Dr. Kjemtrup reviewed VBDS surveillance activities for 2006. Per a recommendation from the LDAC subcommittee on disease reporting, Dr. Janet Mohle-Boetani, Chief of the Disease Investigation Section, presented a proposal to the California Conference of Local Health Officers (CCLHO) Communicable Disease (CD) committee inquiring if local health agencies would be interested in maintaining two lists of reported LD cases: those that fit the surveillance criteria and those that did not. The CCLHO CD committee voted against this concept though it was later tabled at a full CCLHO meeting.

Dr. Kjemtrup also reviewed tick surveillance work by VBDS and other local agencies that submit results to VBDS. She described a recently completed risk assessment project concerning USFS employee exposure to ticks and a study that evaluated ticks that bite humans in California, based on data submitted by laboratories that test ticks for the public.

Comments and questions from the committee were:

- Include information that checking your bedding 3-5 days post tick exposure is useful for recovering engorged ticks that may not otherwise have been detected.
- Suggest the use of a fine-tooth comb, such as a nit comb, to aid parents in detecting ticks in children who play in tick-infested areas.

- There was discussion on how physicians continue to be a difficult group to reach. There still is a perception among physicians that there is no LD in California. Grand round and hospital presentations are good venues to easily reach physicians. The role of CDHS is to support local agencies in education efforts; the proposed web-based presentation to be discussed today should help address some aspects of physician awareness.
- *Borrelia californiensis* was recently described from an isolate from a tick from Dr. Lane's lab: public health significance is unknown.

IV. Committee Member Updates

Dr. Scott Morrow presented a draft document that reviewed LD cases reported from San Mateo County. He noted that the requirement of laboratory reporting for LD has increased three times the number of reported cases to the county. Of the 58 LD laboratory reports, 11 fit the case definition and 47 did not. He presented differences between the cases that fit and those that did not fit the surveillance definition. Dr. Morrow stated that if a patient has been treated for LD, the patient should be reported, regardless if the patient's illness fits the surveillance criteria. He added that the attitude of physicians in San Mateo County is that with only three cases reportable each year in San Mateo, LD is not a real problem.

Points of discussion regarding Dr. Morrow's presentation included:

- Mandatory lab reporting has increased reported cases similarly throughout the state. Dr. Morrow may wish to continue following his county's data over several years to see if epidemiologically important information can be gleaned from it.
- Laboratory tests are subject to inter- and intra- laboratory variation and that there are laboratory negative LD cases; a laboratory test by itself should not define a case. LD is principally a clinical diagnosis.
- There is disagreement among physicians regarding the clinical definition of LD. A two-tiered reporting system could account for multiple definitions. The case-report form for Texas requests information on chronic Lyme disease although a two-tier system is not maintained.
- The point of a surveillance definition is to get useful epidemiological information over space and time; every case does not necessarily have to be counted to get this information. The Council of State and Territorial Epidemiologists is the body that develops the surveillance case definitions.

Dr. Robert Lane reported on a recent publication (American Journal of Tropical Medicine and Hygiene. 2006 Oct;75(4):669-76) from his laboratory in collaboration with CDHS on modeling of risk of exposure to nymphal ticks in California. The model demonstrated that the projected risk of potential exposure to *Ixodes pacificus* nymphs covers 5.4% of the entire land surface of California, that the highest risk occurs in 4 northwestern counties (i.e., Mendocino, Humboldt, Lake and Trinity), and that there

also are islands of elevated risk in southern California. (Model results clarified subsequent to the meeting on May 22, 2007.)

Dr. Kramer reminded the group that in July CDHS will become the California Department of Public Health.

Ms. Messner mentioned that a simple poster on tick removal and subsequent testing would be handy for emergency departments.

Mr. Parlier related a story of a rancher friend who got many ticks on himself while riding through low-hanging scrub oak. Mr. Parlier suggested that ticks can be acquired from sources other than grass alongside trails and leaf litter.

V. Discussion on “Epidemiology of Tick-borne Diseases, Information for Physicians” Website Presentation

Dr. Kerry Padgett, a public health biologist with VBDS and current lead on the tick-borne disease program, presented a PowerPoint primer for physicians about ticks and tick-borne diseases (TBD) in California. The purpose of the presentation is to provide science-based epidemiological information about TBD that can be easily accessed by physicians on a website. She requested that the LDAC provide comments as she presented and if they had further comments to email them to Dr. Kjemtrup by May 1, 2007. Specific comments and suggestions from the committee included:

- Get a better picture of a soft tick for the tick-biology section.
- Remove the “less than 10%” statement after cardiac manifestations of LD, unless similar percentage statements were going to be provided for the other symptoms.
- The risk maps from the publication described by Dr. Lane may be useful for showing risk of exposure to nymphal ticks.
- Show where to get CDHS information on the diseases at the end of each disease section, not just at the end of the presentation.
- Include *Rhipicephalus sanguineus* as a tick that may bite humans in California, based on recent publications from Arizona, and that it may be a vector of Rocky Mountain spotted fever (RMSF).
- Clarify mortality associated with RMSF.
- Include a slide on co-infections.
- *Ehrlichia chaffensis* has only been rarely found in surveys of ticks from California.
- Note that only acute babesiosis is described in this presentation.
- Include case-fatality of tularemia.
- Remove “Time to transmission” slide since physicians may interpret that to mean that patients have no risk of disease if a tick is removed in time. The patient may have missed the tick that actually bit them and transmitted disease.

The Committee discussed including *Bartonella* in the presentation, however, since ticks have not been shown to be competent vectors for *Bartonella*, it is still not considered a TBD.

VI. Proposed website on TBD

Ms. Claudia Erickson, a health educator with the Veterinary Public Health Section of CDHS, presented a proposed website on TBD that would be hosted by the University of California Davis as part of the new CalSurv website. This website is still under development but will be a good source of information for local agencies, health departments, universities, and also the public. Comments from the Committee included:

- Grammatical corrections
- Include a link to a commercial printer who can be contacted to print large amounts of the material.

VII. CDHS classroom poster on tick-bite prevention

Ms. Jessica Payne, a California Epidemiologic Investigation Service (Cal-EIS) fellow with VBDS, presented a classroom poster that she had developed for 4th graders, following the “Beware of Ticks” children’s brochure and bookmark theme. The poster features “Timothy Tickfinder and his dog Bullseye”. The poster was designed specifically to fit into the fourth grade science curriculum where life cycles and ecosystems are discussed. The poster will be reviewed also by teachers who may use it as well as their students. Comments from the Committee included:

- Reposition the tweezers on the tick so that it does not appear that the tweezers are squishing the tick.
- Be sure to assess font size for readability.

VIII. Public Comment

Dr. Chindi Peavey of the San Mateo Mosquito Abatement District reported on tick control trials performed by her agency using both chemical and physical (mowing of grass) approaches. She added that a table of contents should be added to the physician presentation.

Thirteen members of the public offered comments. The major assertions made were:

- The LDAC has made a lot of progress since it first started.
- Lack of physician awareness about the existence, diagnosis and treatment of both acute and chronic LD continues to be a problem.
 - Physicians are afraid to treat or get involved with LD patients.
 - Recent guidelines offered by the Infectious Disease Society of America (IDSA) are restrictive and don’t adequately treat the disease.
 - Hospital physicians should be targeted for training.

- Information should be provided to California medical schools.
- Chronic LD is rampant in California and needs to be taken seriously.
- Co-infection with other tick-borne agents should be mentioned more.
- *Bartonella* should be included in the list of TBD in California.
- The veterinary community should be tapped both for surveillance (using dogs as sentinels) and to provide information about TBD in California.
- Education on tick bite prevention for children, particularly those under four years old, is important.
- Efforts should be made to reach other populations such as the homeless, and those who cannot speak English or Spanish.
- There should be a way for people who have contracted LD in California to contact CDHS to have their case included in surveillance numbers.
- The blood supply should be screened for *Borrelia*.

Committee members responded to the comments from the public.

Dr. Miller noted that CDHS does spend effort and resources to create and distribute prevention methods. The frustration of not being able to reach physicians particularly at medical schools is shared by many; he reiterated that education about LD in the medical school is limited because of the many other competing diseases for which physicians have to be informed. He relayed that active research continues in order to produce an effective vaccine.

Dr. Lane thanked CDHS-VBDS for their work and noted how far the LDAC has come. He added that he is on the organizing committee for the next International Lyme Borreliosis meeting to be held in Western North America in the fall of 2008 and that he hopes to continue dialogue with all interested parties. He concurred with Dr. Miller that an adequate outlet for medical articles specifically for physicians in the western United States no longer exists.

Mr. Parlier reiterated that the LDAC has made great progress.

Dr. Stricker wondered if CDHS could partner with clothing manufacture companies to promote permethrin-impregnated clothing as an important prevention measure. He also noted that physicians turn to the medical literature for information and the literature is dominated by articles from the IDSA. Physician attitudes he felt, are not going to change until the literature changes.

Dr. Kramer thanked the public for their comments and noted that CDHS does not partner with commercial ventures but the use of permethrin on clothing as an important prevention of tick bites is always promoted in CDHS pamphlets, press releases, and other educational materials.

Mr. Parlier adjourned the meeting at 3:27.